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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/719,021

11/24/2003

Joon-ho Cha

1793.1110

9169

21171 7590 05/10/2007
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EXAMINER

VAN ROY, TOD THOMAS

ART UNIT

PAPER NUMBER

2828

MAIL DATE

DELIVERY MODE

05/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/719,021

Applicant(s)

CHA ET AL.

Examiner

Tod T. Van Roy

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6,7,9,10,18-21,32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6-7,9-10,18-21,32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/13/2007 has been entered.

Response to Amendment

The examiner acknowledges the addition of claim 32.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 1, 3-4, 6-7, 9-10, 18-21 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant admitted prior art (AAPA, specification, figures) in view of Spangler (US 5547385) and further in view of Patrick, Jr. (US 3767971).

With respect to claim 1, AAPA teaches a laser diode (fig. 5 #10) comprising at least one active connector (fig.5 #11), a ground connector (fig.5 #13), wherein the active connector and ground connector protrude from the laser diode so as to be electrically connectable to a laser diode driving integrated circuit. AAPA does not teach the ground pin to be longer than the active pin or to be acutely shaped compared to the active connector. Spangler teaches an electrical connector in which the ground pin is longer than the active pins (col.1 lines 56-64). Patrick teaches an acutely shaped conductor which is used to facilitate ESD discharges (col.3 lines 10-15). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the laser diode connectors of AAPA with the ground connector length of Spangler in order to prevent electrostatic discharges (ESDs) from harming the various circuit elements (Spangler, col.1 lines 45-50), as well as to combine the laser diode ground connector of Riazat and Spangler, used for ESD protection, with the acute shape taught by Patrick in order to further attract the ESDs to the ground connector to protect the various circuit elements..

With respect to claims 3 and 4, AAPA and Spangler teach the laser diode as outlined in the rejection to claim 1, and AAPA further teaches the active connector to comprise a first connector (fig.8 #11, laser diode) and second connector (fig.5 #12, photodiode).

With respect to claim 6, AAPA and Spangler and Patrick, Jr. teach the laser diode as outlined in the rejection to claim 1, and AAPA further teaches the insertion of the leads into a printed circuit board (PCB) ([0005]).

With respect to claim 7, AAPA, Spangler, Patrick, Jr. teach the laser diode and circuit board connection, and AAPA additionally teaches the use of solder for connecting the pins to the board (fig.5 #60).

With respect to claims 9 and 10, AAPA, Patrick, Jr., and Spangler teach the laser diode as outlined in the rejection to claim 15, and AAPA further teaches the active connector to comprise a first connector (fig.5 #11, laser diode) and second connector (fig.5 #12, photodiode).

With respect to claim 18, AAPA, and Spangler and Patrick Jr. teach the laser diode as outline in the rejection to claim 6, but do not teach the ground connector to be acutely shaped as compared to the active connector. Patrick teaches an acutely shaped conductor which is used to facilitate ESD discharges (col.3 lines 10-15). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the laser diode connectors of AAPA, and Spangler with the acute shape taught by Patrick in order to further attract the ESDs to the ground connector to protect the various circuit elements.

With respect to claim 19, AAPA, Spangler, and Patrick teach the laser diode and circuit board connection of claim 18, and AAPA additionally teaches the use of solder for connecting the pins to the board (fig.5 #60).

With respect to claims 20 and 21, AAPA, Patrick and Spangler teach the laser diode as outlined in the rejection to claim 15, and AAPA further teaches the active connector to comprise a first connector (fig.5 #11, laser diode) and second connector (fig.5 #12, photodiode).

With respect to claim 32, AAPA further teaches the ground connector (fig.5 #13) is positioned between the first connector (fig.5 #11) and the second connector (fig.5 #12).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tod T. Van Roy whose telephone number is (571)272-8447. The examiner can normally be reached on M-F.

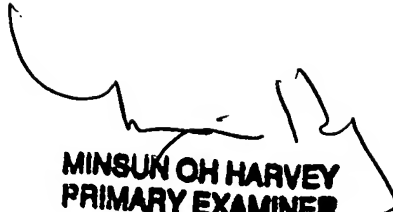
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on (571)272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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**MINSUN OH HARVEY
PRIMARY EXAMINER**